

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/39692

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : HO4Q 7/20
US CL : 455/456.6

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 455/456.1-456.6, 414.1, 404.1-404.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|---|
| X | US 2003/0008669 A1 (STEIN et al) 09 January 2003 (09.01.2003), whole document | 1-3, 5-6, 9-10, 14, 16-17, 19-28, 31-32, 35-36, 39, 41-43, 45, 48-49, 52, 54-64 |
| — | | 4, 7-8, 11, 13, 15, 18, 29-30, 33-34, 40, 44, 46-47, 50, 53 |
| Y | | |
| X | US 2002/0115448 A1 (AMERGA et al) 22 August 2002 (22.08.2002) whole document | 1-3, 5-6, 12, 16-17, 19-23, 27-28, 32, 35, 38, 41-43, 45, 48, 51 |
| Y | US 6,166,685 A (SOLIMAN) 26 December 2000 (26.12.2000), column 3, lines 27-40, column 1, lines 8-15 | 11, 13, 37, 30, |
| Y | US 6,198,935 B1 (SAHA et al) 03 March 2001 (06.03.2001), column 4, lines 2-7 | 18, 40, 53 |
| Y | US 6,330,454 B1 (VERDONK) 11 December 2001 (11.12.2001), abstract | 7, 33, 46 |

Further documents are listed in the continuation of Box C.

See patent family annex.

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|---|--|
| • Special categories of cited documents: | |
| “A” document defining the general state of the art which is not considered to be of particular relevance | “T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
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Date of the actual completion of the international search

18 May 2005 (18.05.2005)

Date of mailing of the international search report

13 JUL 2005

Name and mailing address of the ISA/US

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| Y | US 2003/0050077 A1 (TAKEUCHI et al) 13 March 2003 (13.03.2003), paragraph 20, 25, 27 | 4, 29-30, 44, |
| Y | US 5,734,977 A (SANMUGAM) 31 March 1998 (31.03.1998), column 3, lines 66-67, column 4, lines 1-5 | 15 |